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The
**AMERICAN
DENTAL JOURNAL**

BERNARD J. CIGRAND, M. S., D. D. S.

Editor Publisher Proprietor.

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AMERICAN DENTAL JOURNAL



DR. BERNARD J. CIGRAND

EDITOR ** PUBLISHER ** PROPRIETOR

For the past seven years the writer has been identified with the corps of editors of this dental periodical but for the last two years the entire editorial and literary phases have been under my complete and absolute control; but the advertising features were not without a hamper, as the Journal was published by a trade house. But with July 15th, 1912, advertising and everything under the cover of the American Dental Journal will be in my personal charge, as the entire plant and its good will have come to me by purchase; and from this date on, one half of my time will be devoted to the welfare of this periodical and the great cause and mission of dentistry—as indicated on the title page of this Journal. The foregoing assures the dental profession of an Independent Journal and renders to the practitioners an opportunity of possessing a reliable voice as well as an arena for discussing all matters vital to the progress of the art and science of Dentistry. The

motto of this advanced Dental Periodical shall be:— 'Active in all worthy dental affairs but neutral in none.'

Very Sincerely, B. J. CIGRAND.

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October 15

EDITORIAL AND COMMENTS

1913

ROBBING HORACE WELLS OF HIS FAME

It may be unintentional—yet the result is unkindness—in the movement set on foot to have November 3rd of each year observed as "Sir Humphrey Davy Day" or "Anæsthesia Day," in which celebration it is intended to impress the world with the wonderful influence of anæsthesia. It is to be made a world's holiday, and the entire civilized nations are to be invited to direct attention to the greatest discovery of human relief.

Red Cross societies, White Cross organizations and all medical and dental institutions are to be interested in bringing to the public mind the genius of Sir Humphrey Davy.

The idea of awakening public appreciation of anæsthesia, and inspiring esteem for its originator, is commendable; but it does seem that the English people are, we hope, unconsciously robbing Horace Wells, an American, of this scientific contribution. The medical profession will likely tolerate the theft; but will the dental profession, as usual, sit silently by and enter simply their approval by the legal way of keeping still? The editor of *THE AMERICAN DENTAL JOURNAL* believes he is judging the situation correctly in stating that the admirers of Dr. Horace Wells will not serenely admit of the stealing, and hence this issue of *THE JOURNAL* will be sent to all national and international medical, dental and research historical societies in the hope of warding off a most pronounced injustice to a world benefactor—Horace Wells, dentist.

We need not detail or describe when, how or where Horace Wells demonstrated anæsthesia. That is known history, and readers of this journal have for some months enjoyed the classical article on anæsthesia and its discoverer by the venerable Dr. James McManus, of Hartford, Connecticut.

We will neither waste paper or time on the opinion of the Sir Humphrey Davy advocates. The real discoverer, demonstrator and advocate of nitro oxide anæsthesia is one of our profession, and common, ordinary and unembellished professional pride will induce every dentist to lend his efforts to induce proper recognition of that pioneer in dentistry and that student of sleep-producing agencies—Dr. Horace Wells.

In a recent American periodical considerable attention is given to the idea of remembering Sir Humphrey Davy, and after giving the subject of anæsthesia definite attention the name of Horace Wells is not even mentioned, but the date of his demonstration is given and the town where he administered is mentioned. This sure is a slight—it even borders on crude ingratitude. An American publication advocating injustice to one of our noblest scientists, and the fact that this editorial

slight is penned by an American and a reverend named Thomas B. Gregory, does seem out of accord with all logic. Well, let us dismiss his mistake by saying that in this instance the learned reverend happens to be writing on a subject slightly outside of his province. The article is entitled "Birth of Anæsthesia," and reads in part as follows:

"Because Sir Humphrey Davy, one hundred and ten years ago, wrote a little note to a medical friend upon a certain subject, the third of November was destined to become one of the most glorious dates in the annals of the human race. Sir Humphrey had been experimenting on nitrous oxide gas, and, discovering its anæsthetic properties, wrote to his friend these momentous words: 'As nitrous oxide, in its extensive operations, seems capable of destroying physical pain, it may probably be used with advantage in surgical operations.'

"It is true that Davy's suggestion was practically unheeded for almost fifty years; but in 1884, in Hartford, Conn., the first painless surgical operation was performed. Two years later, in Boston, and one year later, in London, general anæsthesia was successfully produced, and the great victory was won.

"Since those memorable years it has been possible to perform the most difficult surgical operations without a particle of pain to the subject.

"If among the 'holy days' of the calendar there is one holier than this, will someone point it out?"

Some years ago I learned that there was in Philadelphia a letter from Mrs. Horace Wells, in which she grieved about the manner her husband was treated, and that she foresaw his fame destroyed.

The bulk of this good woman's correspondence—in which she portrays her sacrifices in her husband's interests, and the story in her own words of the family privations and the sufferings of hunger, as well as that peculiar feminine distress of being out of fashion and held in disdain socially—all this tale of a real heroine has evidently been lost; at least it has not been brought into recent light.

But one of these letters, I find, has come to the Ohio Dental Library Association, and through the kindness of Dr. L. P. Bethel, editor of the *Dental Summary*, and Dr. Edward C. Mills our readers are furnished a remarkable bit of history and a splendid example of womanly fidelity. Had it not been for the deep love, the sturdy loyalty and the unrelenting support of Mrs. Horace Wells, anæsthesia and anæsthetics might themselves be still sleeping and sleeping still.

Your editor tenders thanks to Dr. Bethel and Dr. Mills in making it possible for us to get a photographic reproduction of this one letter of Mrs. Wells, and I would suggest that the Ohio Dental Library Association keep that letter under lock and key, and not admit of too easy exhibition, for the sunlight, the elements and other phases of publicity may bring injury to this famous letter. Dr. E. C. Mills writes the following of it:

"The engraving is an autograph letter of the widow of Dr. Horace Wells, the discoverer of anæsthesia. The original, now in the library of the Ohio Dental Library Association, was probably addressed to the late Samuel D. Gross, professor of surgery in the Jefferson Medical College, Philadelphia. The evidence that accompanied it was no doubt used by him in his work, 'American Medical Biography,' edited in 1861.

"Forty years after the death of Priestly, Wells made the discovery of the anæsthetic properties of the gas; two years later, in 1846, Dr. W. T. G. Morton, of Boston, who had been a student of Dr. Wells', began his experiments with sulphuric ether. This produced the long anæsthezation necessary in surgical operations, and Wells in the meanwhile endeavored to improve methods of administering nitrous oxide to prolong insensibility, but it was beyond his power. His great anxiety, and the experiments made with chloroform (referred to in the widow's letter), unbalanced his mind, and he committed suicide in New York City in 1848, in his thirty third year.

"Paul Bert, whose medallion appears on the monument to Dr. Wells in Paris, solved the problem that had baffled Wells—that of producing prolonged anæsthesia with nitrous oxide. Knowing that pure nitrous oxide anæsthetises but asphyxiates,

Sir,

Hartford April 1860

As the widow of Dr Horace Wells I beg leave to address you. The discovery which my husband made and which has so largely benefitted mankind has been to his family only a source of bitter misfortune. The experiment to which he consistently made upon himself terminated fatally and he died in fear and despair that the fame due him should not be accorded after his death.

The only inheritance which Horace Wells has left is the reputation which he had earned as a benefactor of mankind and my highest ambition is to leave this unquestioned before the world.

Although it may now be too late to do anything, but justice to my husband's memory I pray that at least this may be accomplished.

To this end let me beg you to give some

attention to the evidence which will be forwarded to you. It has been prepared by the friends of a helpless woman whose duty it is to redeem the memory of a good man and rescue the credit of his discovery from the grasp of men who presuming upon his sensitive nature and after words upon my helpless widowhood have laid claim to a discovery which I know belongs to my husband alone. Yours respectfully

Charlotte Wells.

and diluted it no longer asphyxiates but ceases to anæsthetise, Bert compensated for the effect of dilution by administering a mixture of five volumes of the gas with one volume of oxygen, thus producing the nitrous oxide and oxygen which today is rapidly supplanting ether and chloroform in surgical operations.

"Horace Wells, a dentist of Hartford, has been acknowledged throughout the scientific world as the discoverer of anæsthesia, and as such his fame will resound through the ages.

"While the dental and medical professions may seem tardy in doing justice to his memory, the following memorials will perpetuate the fame of this great benefactor: A life-size bronze, erected by the dentists of Connecticut and the Connecticut State Medical Society in 1874, adorns Bushnell Park, in the city of Hartford. In 1894, on the fiftieth anniversary of the discovery, a memorial tablet, with an appropriate inscription and a medalion of Wells, was presented to the city of Hartford by the dental profession and placed on a building marking the place where the discovery was made. A bronze bust of Dr. Wells, presented by the dentists of America in 1899, was placed in the Army and Navy Museum at Washington, D. C., and a recent memorial of Wells was placed in Paris in the Place de Etats Unis as an expression of appreciation of an American dentist's contribution to the world of science—a benefactor to suffering humanity."

At considerable expense this letter of Mrs. Wells' has been accurately reproduced and made as an artistic insert in *THE AMERICAN DENTAL JOURNAL*. Read that letter. The handwriting signifies cultured, loving and dignified womanly attributes. Note her prophecy, mark her ambition, and then resolve to lend your support to *THE AMERICAN DENTAL JOURNAL*, which will continue to bring glory to Horace Wells and fame to his devoted wife.

COMMENTS

To those who send one dollar now we will send *THE AMERICAN DENTAL JOURNAL* fifteen months. This applies on renewed as well as new subscriptions.

ORIGINAL CONTRIBUTIONS

THE THYROID GLAND AND POOR TEETH

BY H. EWAN WALLER.

[This distinguished English dentist tells the readers an interesting point in dental decay.—EDITOR.]

More important than all the dentists and their new fillings and methods is the mystery of why teeth decay. A certain ductless gland in the neck, known as the "thyroid," largely controls the destiny of our chewing apparatus. Of course, nobody doubts that cleaning the mouth, selecting proper food and general care of the health aid in keeping the teeth sound; and lack of these things contributes to their breaking down. But these are not the only causes, nor the main ones.

In spite of neglect and ignorance, some people have absolutely no trouble with their teeth, while others brush and clean and yet spend small fortunes with the dentist. "A polished tooth never decays," they say, and this is probably true; but it is equally true that nobody can keep every portion of every tooth polished all the time.

"The lungs and the liver and the heart and other organs are supposed to take care of themselves without one's personal attention," says Dr. Waller. "That is nature's business. If nature does not attend to her business we ought not to be perpetually dusting and sweeping and cleaning up after her, as if she were a careless housemaid, but should call her to account.

"Good health was early recognized as one of the foundations for good teeth. But many cases of excellent general health show poor teeth; so we must conclude that there are various kinds of good health—some which include the teeth and some which do not. Also many patients of very feeble constitution for some reason have no need of the dentist."

Among the varying causes of health and disease Dr. Waller finds one constant factor. When there is trouble with the thyroid gland there is trouble with the teeth.

All over the body, in nooks and corners, are found all sorts and sizes of glands. Some of these are well understood, such as those that secrete saliva for the mouth or tears for the eye. These have outlets called "ducts," which empty their products where they are needed. There are also other kinds of glands which have no outlet. These are called the "ductless glands," and whatever they secrete goes right into the blood itself. The thyroid is a blind, ductless gland. It is in the neck, and when enlarged causes the disease known as "goitre."

The thyroid does several wonderful things for the body of which we know; and doubtless several others, unknown. The entire process of growth and development of a body into a full-grown adult depends on this small body hidden away behind our mouth.

When a baby is born without an adequate thyroid it becomes what is known as a "cretin." The cretin is not likely to be more than four feet tall, probably less. His intellect hardly progresses at all, often remaining so childish that he is absolutely dependent on others all his life. The cretin lives a dull, vegetable-like existence, and takes note of very little that goes on around him.

His bones are stunted and feeble, curvature of the spine is common, and bow-legs exaggerate the short stature of the cretin. In the case of an imbecile of this kind, with so many things wrong, it is not surprising that the symptom of bad teeth should be passed by with little interest. Yet decayed teeth are the most invariable symptom of all.

Cretinism can be cured nowadays by treatment with thyroid extract, taken from the thyroid glands of animals. This artificial supply gives the system the missing element in building materials, and the cretin at once begins to grow, and even make up for lost time. If the treatment is begun early enough, the system is able to turn out quite a presentable human being in the end.

Where the artificial thyroid substance is supplied before the permanent teeth appear these arrive strong, full-sized and able to resist the attacks of the microbes and acids of the mouth. If the treatment begins after the permanent teeth come, they are small, ill-formed and doomed to perpetual decay until they are removed.

In the teeth the action of the thyroid element is particularly suggestive of mortar. If there is extreme scarcity of this element in the blood the teeth will be stunted and malformed. If the lack is not so great the building of the teeth will go on, but the structure is like a wall built by a stingy mason who has skimmed on the quantity or quality of his mortar. The tooth crumbles away at the point nature stunted, just as bricks fall out of a poorly-made wall.

But the thyroid gland not only supplies a sort of mortar for building, but it gives us anti-toxins to fight germ diseases. It is such a faithful, self-sacrificing body that it will wear itself out in defense of the system.

Before the thyroid was discovered it was noticed that an epidemic of typhoid fever in a community was followed by an increase in tuberculosis and other diseases among the convalescents. In the typhoid patients the thyroid gland had exhausted itself in overcoming the disease and was unable to resist the next invasion of tubercular germs. During this period of thyroid prostration the teeth give incessant trouble, but not usually while the system is combating the first disease. Among children's diseases, measles seems to throw the heaviest burden upon the gland, and measles is usually followed by a sudden increase in dentist's bills.

The reason that mothers before childbirth usually suffer from their teeth is because the thyroid secretion in their blood is drawn upon for the growth of the child, so that the mother's system, including her teeth, is robbed of its share. Giving thyroid extract to expectant mothers not only prevents decay of their teeth, but relieves nausea.

Of course, any person suffering from cretinism to a marked degree, if treated at all, would be given enough thyroid extract

to supply the teeth as well as the rest of the system. The persons to be benefited by Dr. Waller's investigations are those who were born with healthy thyroid glands but have exhausted them in fighting diseases. Such persons may stop the ravages of decay in their teeth and avoid more obscure troubles in other parts of the system by putting themselves under thyroid treatment. This should be done, of course, under the direction of a physician.

WHERE LIFE IS FOUND AND FORMED

BY DR. CHARLTON BASTIAN

[After reading this article you will still wonder how some of the dentists "absolutely seal root canals and never have a bit of inflammation or trouble." The experiments of Dr. Charlton Bastian would almost demonstrate that we have much to learn about root canal fillings. Some of the specimen root fillings recently seen at a state dental society meeting contained openings large enough to see a baseball game between the bacteria and microbes in the enclosures.—EDITOR.]

According to Dr. Charlton Bastian, the creation of life from non-living matter is an assured fact. "Living organisms can be obtained at will," says Dr. Bastian, in his work on "The Origin of Life," from solutions that have been heated in hermetically-sealed vessels to a temperature very much higher than that which is known to be their thermal death-point. This leaves no further room for doubt upon the much-disputed point whether or not non-living matter is still capable of coming into existence.

Remarkable as it may seem, it does not require any large amount of scientific knowledge or any costly laboratory equipment to create life artificially. According to Dr. Bastian, the miracle can be performed, with a little patience, right in your own home. Here is how it is done:

Add to one fluid ounce of distilled water eight drops of liquor ferri pernitratis and three drops of sodium silicate.

Place this mixture in a glass tube which has first been carefully sterilized to destroy all life, and bring it to a boil. While steam is coming from the tube seal it hermetically with

the aid of a blowpipe. This is done to prevent any life germs entering from the atmosphere.

All forms of life are supposed to be killed at the temperature of boiling water (212 degrees Fahrenheit). To make sure, however, the tubes may be inserted in an oil bath having a temperature of 266 degrees Fahrenheit, and kept there for fifteen or twenty minutes.

The tube is then removed, put carefully away in diffuse daylight, and left there for several days. At the end of that time the tube is broken, its contents poured on glass slides and examined microscopically.

Living bacteria of various kinds may be seen in the liquid—multiplying and, apparently, perfectly happy! Life—even if it is a low form of life—has been created.

In addition to the formula mentioned above, here is another which may be used in this experiment with equally satisfactory results:

Sodium silicate, two or three drops; ammonium phosphate, four to six grains; dilute phosphoric acid, four to six drops; distilled water, one fluid ounce.

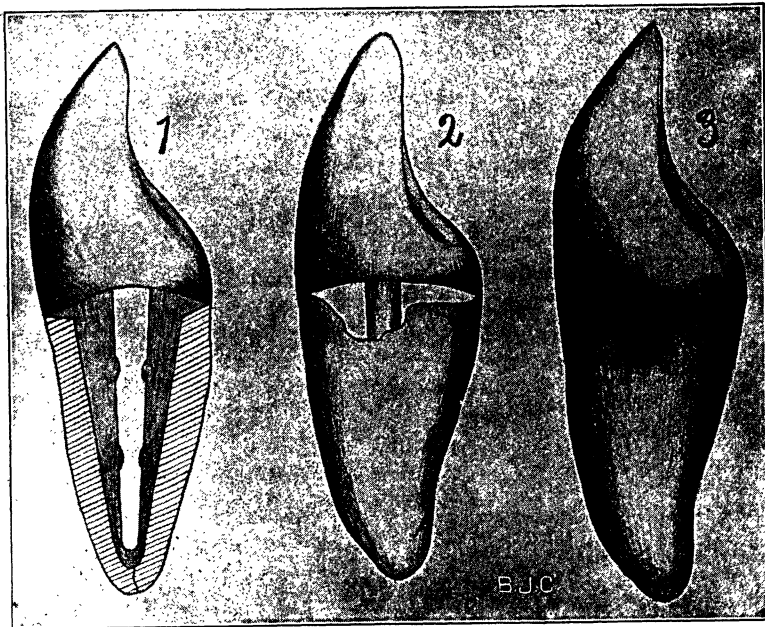
METHODS FOR ANCHORING CROWNS AND BRIDGES

[Copyrighted 1911 by Bernard J. Cigrand, M.S., D.D.S.]

The dental profession during the past five years has devoted much attention to crown and bridge work, the consideration of the superstructure, root preparation, band construction and crown formation. We have arrived at a point where we fully realize the importance of the mechanical principles involved—in that we appreciate the force of the jaw and the necessity of perfect fit on the roots. In this consideration of force we have in a measure forgotten the importance of the basic purpose which determines the ultimate success of the mechanism. Imperative as it may seem, to fully comprehend the superstructure, the substructure of a crown or bridge, its anchorage is, indeed, primal. The one is no more essential than the other, and both are indispensable.

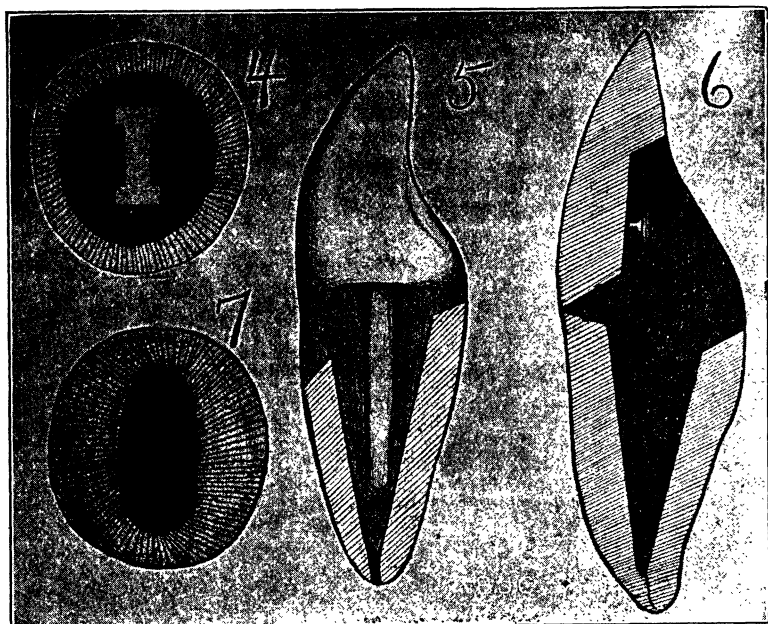
In the past we have been concerned in the construction of the bridge, and have practically lost sight of its fundamentals; and if its pillars of location are disregarded, discouraging failure must be the climax.

The method I have advocated and demonstrated before many state and national dental gatherings is one that requires



no great technical ability because of its simplicity. Prepare the badly-decayed root as usual in daily practice; ream out all broken-down tissue, relying on sound tooth structure, and have all walls parallel, so as to facilitate removing the wax; then in the usual way fit the crown. Be it Logan, Davis, Brewster, Justi, Twentieth Century, or other crown of that character, make a perfect fit; just before setting same apply a bit of wax to the metallic post and insert in cosmoline canal. At first introduction you may have an excess of wax; remove and soften over alcohol flame and trim where indicated, and then reinsert,

and after a good, accurate adaptation, the initial step is complete. Then take the crown, with its wax-encased post, and invest entirely in the ring of your casting apparatus, and after freeing the wax from investment, and being assured of the perfect dryness of the case, proceed to liquidate the gold, or my



anchorage metal, and by means of air, either suction or pressure, cast the cases.

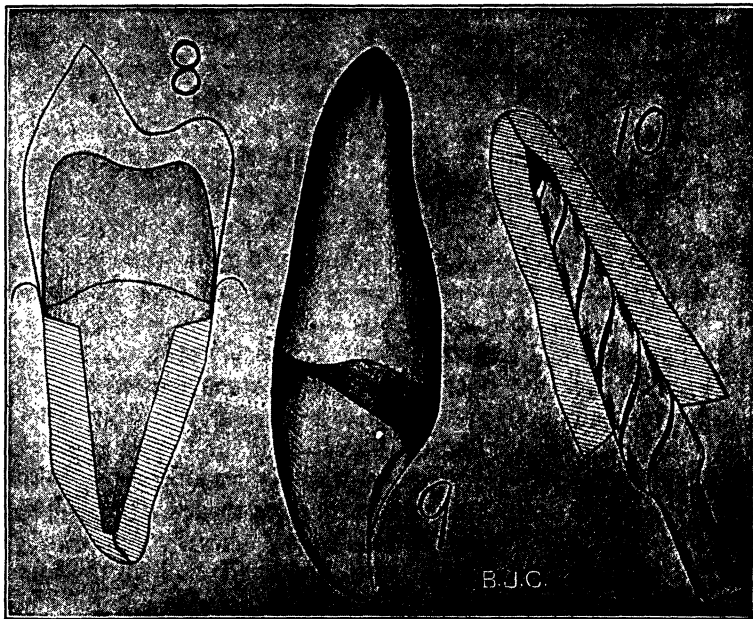
While gold is the metal indicated, the combination metal is fully as satisfactory where it is entirely encased or cemented into the root canal.

This new metal is congenial to the tissue, and does not yield a metallic taste, and can be used to repair vulcanite cases.

The metal alone would hold the crown, but to afford hermetical sealing cement is employed. This is clearly shown in Fig. 1.

Cement, like glue, is strong in film form—bulk weakens them.

There are innumerable roots presenting themselves daily where the mesial or distal sides are decayed below the free margin and below the alveolar circumference, which can easily be built up, and the root becomes immediately a valuable element in denture substitution—be that a mere crown, or as a foundation for a bridge. The wax is added to the crown post,



as in Fig. 1, but sufficient wax is allowed to dip over upon the side badly decayed (but ground and perfectly contoured before introduction of the wax); then remove and cast as already indicated in Figs. 2 and 3.

It is deplorable that too frequently the lateral or first bicuspid roots are extracted and a tooth supplied by some system of bridge work, cutting down the sound adjoining teeth, collaring them with gold, when it was within the province of dental pro-

thesis to save the root, and place upon it an individual crown, such as would afford the natural denture a hygienic substitute fully in accord with the laws of mastication.

The root canal should not be reamed on the lateral sides, as this portion of the root should be kept sound and strong, since the strain of mastication is directed at this portion, and it is at this point where roots fracture. Instead of making a circular opening, make it rhomboid. This leaves the root thick laterally, where the resistance to pressure is greatest.

Choose a small reamer, and by giving it an anterior-posterior movement you are able to cut an opening of an elliptical character, and you leave the root structure thick at its lateral sides, where the major strain falls and where the root must of necessity be the strongest. Further, this rhomboid opening thus affords additional anchorage to the crown (Fig. 4).

It is evident that a crown set as recommended can not loosen or fracture the root, unless the post first stretches; and this, I believe, is the cause of many of our crowns loosening. The primary cause does not lie hidden in this, however, but in a factor which I will explain later. If the posts in the Logan, or in any of the full porcelain crowns, were made of iridio-platinum, instead of pure platinum, there would be less likelihood of the yielding process, and the stability of the crown would be more assured.

This form or casting so accurately fits the canal and adjacent parts that independent of cement the crown would be held firmly in position; but with a film of cement, or insoluble varnish or resin, the crown is indefinitely lodged (Figs. 4 and 7).

Then there are cases, not infrequently met, where the anterior half of the root is partially broken away, and these cases tax the ingenuity of all operators; but by this method these distressing cases are made simple, indeed. Just pack cotton or gutta percha, forcing away the gum tissue, dismiss the patient, and on next call the entire fractured surface is in clear view. Adapt wax to fractured part, crowding wax into root canal with aid of crown-post; then remove and cast as cases already described (Fig. 5).

The average dentist has a larger supply of plain teeth than porcelain crowns; and because of this variety can select a shade, shape and size that may harmonize with the natural adjacent teeth. The method for appropriating a plain-facing for a crown is to adapt wax on a crown-post, building wax high enough so as to incorporate the pins of the plain-facing; then remove and cast in the usual manner (Fig. 6).

Loose or drone roots can be made serviceable if properly treated. If a good fitting crown is adjusted, and you accord to that root the natural exercise of mastication, you restore to its periodontal membrane a renewed circulation of blood, and in turn recreate a vigorous dental antagonism,—the basic principle of sound dental organs,—while if the root is allowed to remain uncrowned, and its exposed portion is denied contact, certainly nature will inaugurate an effort to throw off the useless member. But observe the rules of mechanics and apply a crown to this apparently drone root, and the change which proceeds is astonishing and the prosthesis is perfect. This is especially true of bicuspid; and if a metal post is cast, and is sufficiently built up as to overlap the trimmed circumference of the root, and high enough, a gold shell or telescope crown can be put over same, giving the most satisfactory results; and if the root is sound and stable, it can be employed as an anchorage for the bridge (Fig. 8).

Should the palatal or lingual surface need restoration, just let the wax be brought to that portion and then cast. The metal will then assume the same position, and the case will be perfectly restored, as in Fig. 9.

In order to avoid trouble in drawing the wax, and to produce a perfect casting, use a reamer which will so shape the walls of the root canal as to admit of easy extraction of the wax, as shown in Fig. 10.

Try this method just once, and be convinced that even badly decayed roots, when reamed and trimmed to sound tooth structure, will carry a crown, when fitted as described, and retain the porcelain crown indefinitely. The process is simple: Trim the root in the usual manner, adapt soft wax about the

pin of the crown, after carefully fitted remove, invest, wash out wax, dry case and cast my anchorage metal.

Now this method of restoring badly decayed roots is not advocated by me because of its production of restorations in a simple way, though it does accomplish this event, but because it conserves the dental organs, and brings to our enfeebled humanity an element of redress, and accords to the philosophy of mastication an attribute indispensable, and yields pronounced results.

It is also important that you use the cement which is least likely to waste or wear away, and the concrete cement as made after my formula will give splendid results.

This concrete cement is especially adapted for crown and bridge work, but unequaled as a tooth structure preservative; though, on account of its shade, recommended for distal teeth and cavities only.

On the anterior teeth, because of its similarity in shade to the normal gum, it is always indicated; the other cements, at the contact of both crown and root, being conspicuous, while this pale, pink cement is natural in appearance.

The formula of this concrete cement is such that its durability and less solubility makes it a superior element in both operative and prosthetic operations.

My concrete cement is mixed and manipulated as are any of the standard cements. It is less porous and withstands wear longer than any other cement. To prove this use your microscope and sandpaper disk.

This metal melts or fuses at a lower temperature than any of the metals for prosthetic purposes. It is agreeable in taste and congenial to the tissues.

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A CALL TO ARMS!

BY DR. L. LEVITT

[Dr. L. Levitt makes a very strong plea, and *The Progressive Dentist* and THE AMERICAN DENTAL JOURNAL gladly accord him space. The pot is sure boiling in New York State, but all dentists should aid the Empire effort to retain our professional dignity.—EDITOR.]

Like Nemesis of old, I burned with indignation when I heard of the shameful ruling of our worthy attorney-general disfranchising the dental profession to the extent of barring a druggist from honoring our prescription for cocaine.

Let alone the inconvenience to which the dentist is subjected by this rule; for imagine the predicament when on discovering that his supply of cocaine crystals is gone, while the patient is in the chair, he (the dentist), instead of sending down to the drug-store for it, has to go out hunting for a physician to give him a prescription for the drug, which he uses in much greater quantities than (and knows as much of its uses and properties as) that same physician, whose kindness and confidence he is obliged to solicit.

Let alone all that, the insult flung in our faces is of the most despicable character.

What does it mean?

Does it mean that we are an irresponsible and depraved lot, who should not be trusted with the privilege of obtaining the drug on our own authority, or does it mean that we are a stupid herd of cattle, who are not competent enough to use this privilege?

The former hypothesis has no foundation, for those professionals that were hunted down by the police as cocaine, morphine and opium dealers happened to be duly licensed and registered physicians—trustworthy and competent to obtain these drugs on their own prescriptions.

The latter supposition—i. e., that dentists are incompetent to be trusted with this privilege—is absurd, and is the result of total ignorance on the part of our legislators. Of the scope of knowledge required by the state as qualifications for the dental

profession (this to be assumed), is idiocy. To conceive that one who has studied anatomy, physiology, pathology, histology, bacteriology, materia medica and chemistry in a recognized institution, and passed an examination on these subjects with the state board, obtaining from the respective institutions his diploma and degree of "D.D.S.," and a license to practice dentistry, is not competent enough to obtain on his own prescription the drug that is an essential in his practice—to conceive that requires a brain which has undergone considerable atrophy (caused by inactivity), and whose actions are spasmodic and intermittent, like the flame of a candle before it goes out.

It is up to you, fellow-practitioners, to prove to our praiseworthy health department, legislators and attorney-general that we are not a lot of irresponsible, depraved desperadoes, nor a herd of domestic animals that can be humiliated with impunity.

It is up to you, sentinels of public health,—who can be credited with saving thousands of men, women and children from destructive diseases and consequent death,—it is up to you to furnish the ingenious board of health ample evidence that you are more than a plumber who has to get a physician's prescription in order to obtain acid for soldering pipe-joints.

Ignore the existence of our aristocratic State Dental Society! Let the Allied Dental Council call a special meeting at once and arrange a protest!

Unless you do this your rights will be more and more encroached upon. You will soon cease to be designated by the name "professionals," and you will have to change the inscription on your shingle from "Dr. Jones, Dentist," to the more becoming one of "Jones, Tooth Puller and Plugger."

ANCIENT AMERICAN RUINS YIELD UP HUMAN JAWS

BY PROFESSOR MARSHALL HOWARD SAVILLE,
Professor of American Archaeology, Columbia University

[The Hearst newspaper syndicate permits the following, and the professor at Columbia University deserves great praise for his discoveries: "What may be regarded as the most remarkable archaeological discovery since the excavation of the ruins of Pompeii has just been made in Ecuador

by Professor Marshall Howard Saville, one of the foremost American archæologists. According to Spanish tradition, the region recently explored by Professor Saville was at one time occupied by a tribe of Indians who clad themselves with gold leaf and used gold about as freely as we now use wood and steel. This was the fabled city of Eldorado. It looks as if the Spanish tradition may have been founded upon something more substantial than imagination, for Professor Saville has brought to light startling evidence that this region was once occupied by a gold-plated people." Professor Saville will furnish THE AMERICAN DENTAL JOURNAL with additional historical and archæological matter; and never has there been such an interesting dental find come to the surface on the western hemisphere. If any of the readers have anything relating to early American dentistry, send the article, and due credit will be accorded.—EDITOR.]

[Continued from page 576, September issue.]

At La Tolita, on the island called Tola, at the mouth of the Santiago river, there are about forty mounds in the cleared section, ranging in height from four to twenty-five feet and from twenty to one hundred and fifty feet in diameter. Excavations made on a former trip by one of my party in the largest mound discovered a skeleton buried in a sitting position with a large clay seal or stamp in the hand. With the body were a number of pottery vessels and a gold egg having a small emerald inside. This is the only mound which has as yet been explored, and the cut in the mound was confined to a trench in the centre. Near the edge of another mound the owner of the property dug a hole, and at a depth of a few feet found a large box containing a much decayed skeleton and a veritable treasure of gold jewels and various large pieces, such as a crown, breast plate, wrist covering, etc., the bullion value of which exceeds three thousand dollars. In the level portions of the island, wherever excavations are made, gold is found, and thousands of fragments of pottery vessels and figures are discovered. Excavations have always shown gold in paying quantities. The panning never fails to reveal objects of worked gold, of which I have obtained a collection of about two thousand pieces of an infinite variety of forms.

The greater part of the jewels are of very diminutive size, and in order to study the workmanship they must be viewed under a lens.

Among these objects may be mentioned gold rings with stone settings, pendants with stone settings, minute masks of filigree work, nose, ear and lip ornaments, and tacks or nails, of which I have spoken before, which were used to ornament the face. I found also fish hooks, needles and awls, all made of gold.

Still more striking proof of the skill of this ancient people as metallurgists is the finding of jewels made of pure platinum, or composed of platinum and gold filigree, or, as in some instances, objects made of gold on one side and platinum on the other, appearing like a pale silver washing, several little jewels in platinum background with tiny balls of gold used to make a border. The use of platinum is a unique feature of the section of South America extending from Esmeraldas northward into the region of the Choco river. In this particular phase of ancient art the Esmeraldas people seem to stand alone, especially when we examine the work of the ancient goldsmiths from other parts of America.

After Professor Saville reached Columbia University the *New York Sun* sent an interviewer to him, and the following is additional from the *Sun*:

"Professor Saville of Columbia, in Ecuador, found many pre-Aztec skulls perhaps 1000 years old, of a type superior to the Aztecs, and what was especially remarkable was that their teeth showed both gold and cement fillings.

"The gold-filled teeth struck him as the most unusual feature of his finds. In Mexico he had dug up skulls with teeth filled or ornamented with stone, but he had never before seen gold fillings in a prehistoric skull. The gold was on the edges of the teeth, and had been applied from the inside. It showed little on the outside, so the purpose appeared to be less for ornamentation than for utility.

"Some of the teeth were filled with cement. In all cases, whether the fillings were gold or cement, the borings indicated that a tool had been used that did the work possibly as well as the instruments of the modern dentist. Some of the teeth that apparently had been loosened were held together by gold

bands. . . . Prof. Saville said that the residents or natives of that part of Ecuador where he found the skulls and the pottery, just north of the Equator, apparently were the only primitive people who understood the art of using jewels and platinum in decorative art. One of the objects in using gold in the teeth doubtless was ornamentation, but the chief purpose seems to be to preserve."

THE WISCONSIN PIONEER DENTIST

By B. J. C.

Recently the *Port Washington Star* (Wisconsin) gave a splendid account of Mrs. C. E. Chamberlin, who is still living in Michigan. But the sketch failed to state that her husband was a famous teacher-dentist or dentist-teacher, and THE AMERICAN DENTAL JOURNAL wishes to give both the good wife and the famed dentist proper consideration. The "*Port Star*," among other things, stated these good things of the pioneer sweetheart and wife:

"Elizabeth Hill Chamberlin was born in Oxford, N. Y., in 1824; finished her education in Oxford Academy; was married to Charles E. Chamberlin, editor of the *Republican*, a democratic newspaper published in Oxford, N. Y. On July 4, 1844, the young couple determined to try their fortune in the then 'Far West,' journeying overland to Utica; from there to Buffalo via an Erie canal boat, and from Buffalo to Milwaukee via the great lakes in a steamboat; and the remainder of the journey to Hamilton, near Cedarburg, was made with an ox team.

"A log cabin was built, and Mrs. Chamberlin was installed therein as mistress of a pioneer's home. Money was very scarce in those days, and house furnishings very dear; so it was necessary for Mrs. Chamberlin to do what she could to earn the family income, and a year after she settled in Hamilton with her husband she taught school in a little log school house three-quarters of a mile away from her home, walking the entire distance. She had to take her babe with her, and

also her lunch. The babe was put to sleep in a rude cradle while the mother taught her thirty pupils—some as big and old as herself. For this labor she received the munificent salary of \$10 per month. This school she taught for several years. During vacation periods she boarded the workmen in the grist

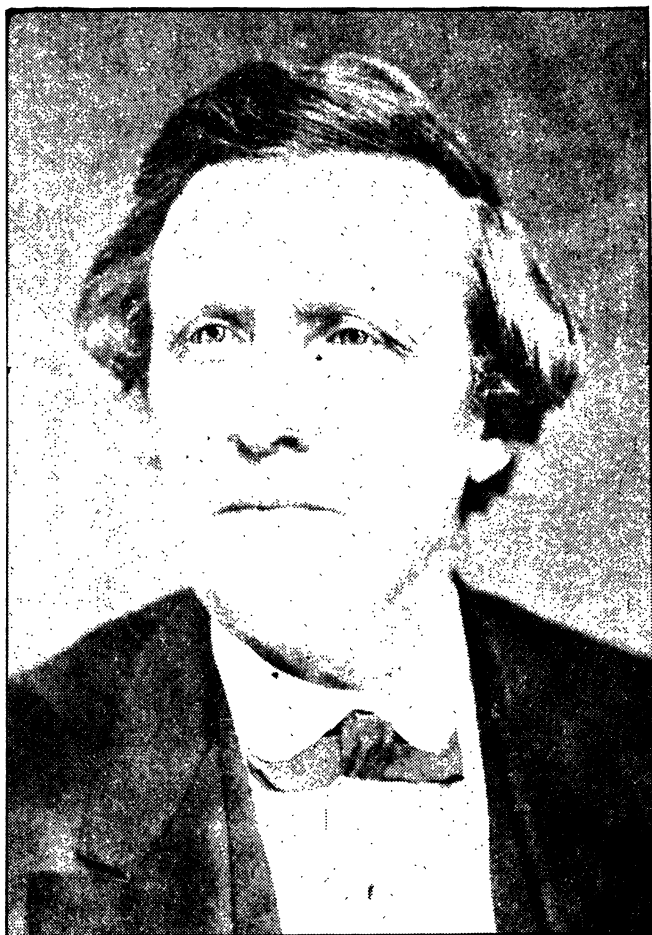


ELIZABETH HILL CHAMBERLIN

and saw mills at Hamilton. This intrepid Plymouth Rock descendant promoted and organized what was perhaps the first Sunday school—and certainly what was the first singing school—in the 'New West.'"

Her husband was a dentist, and for two scores of years practiced that profession at that beautiful lake city, Port Washington, Wis.

In 1845 he purchased timber land in Hamilton, Ozaukee County, Wisconsin, and he relates his enjoyment consisted in chopping down trees, hunting, teaching and studying dentistry.



DR. CHAS. E. CHAMBERLIN

Dr. Chamberlin was a leader in early Wisconsin politics, and was a member of the 1857 and 1872 state legislatures, and in the interest of education and good government he made a splendid record. He in his later life, while practicing dentistry, also held the highest offices in the gift of the citizens of Ozaukee county.

Dr. Charles E. Chamberlin has the unique distinction of having been a dentist-teacher,—or, better still, a public school teacher who was in reality a dentist,—and he so united the two professions as to render the highest efficiency to his pupils. I know of no earlier public schools admitting the practice of dentistry than those of Waubeka and Port Washington, Wisconsin; and while it was a small beginning, it nevertheless was a start as early as 1872, and instituted by the most beloved and highly educated Charles E. Chamberlin.

But to this venerable, Benjamin Franklin-like printer belongs credit which has never been given him, and in the interest of truth your editor journeyed to Port Washington, Wis., and definitely learned that Dr. C. E. Chamberlin, while teaching the public schools at both Waubeka and Port Washington, practiced oral hygiene on the pupils of these schools. Hence as far back as 1872 Dr. Chamberlin, the dentist-teacher, practically instituted in a meager way "Dental Care for School Children." He kept his dental instruments and medicines at the school-houses, and when any of the pupils required dental attention he would, during the noon hour or after school, render dental service. There are still living a dozen or more elderly ones who, while attending public school, had Dr. Chamberlin extract and treat their teeth.

THE CRILE METHOD

BY DR. W. A. EVANS

[We are in the midst of a most intense controversy relating to the proper methods for producing artificial sleep, and great changes are about to take place in not alone methods, but agencies as well. Dentists have

always been leaders in the employment of anæsthetics—is the Crile system foreign to our needs?—EDITOR.]

[Continued from page 578, September issue.]

The new method is the natural next step. It uses inhalation anæsthesia, and it adds to it some procedures to cut off the the sources of shock not cut off by inhalation anæsthesia.

First, the patient is given morphine before the operation. A person under morphine is neither chesty, as after whisky, nor depressed—he simply does not care one way or the other. Then comes the ether, chloroform or laughing gas—whichever the surgeon prefers.

The operation is not begun until the field of operation is anæsthetized with a local anæsthetic. The idea is to cut the telegraph wires in the field of operation, so that the messages can not travel to the center.

The pain in and near the wound is fearful for two or three days after the operation. To prevent the shock from this pain Crile injects some quinine into the tissues near the wound. This anæsthetic does not wear off for half a week.

The Crile method, then, consists in: (a) A dose of morphine an hour or more before the operation to prevent the mental shock of fear and dread; (b) ether, chloroform or laughing gas to prevent the mental shock and pain of the operation, and to make the surgeon feel that he may take the time to do things as they should be done; (c) local anæsthesia along the wound to protect the central nerves from operation shock; (d) quinine along the wound to save the nerves from the after-shock.



The American flag belongs to all deserving citizens regardless of their political affiliations or religious training: the AMERICAN DENTAL JOURNAL belongs to all deserving practitioners regardless of their fraternity affiliations or their collegiate training. That is why subscriptions are coming in and why you should be a "pay your way" reader.

ZYGOMATIC EXERCISE.

[The dentist's life is usually so stern and so absorbed with the sympathetic side of life that his zygomatic muscles, the smile-producing fibres, get completely dormant; they, like all other elements of the human economy, need exercise. And your editor invites you to send in a few tonics.—EDITOR.]

ANXIOUS MOMENTS



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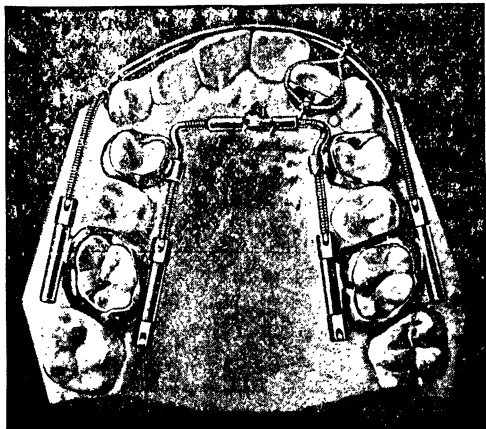
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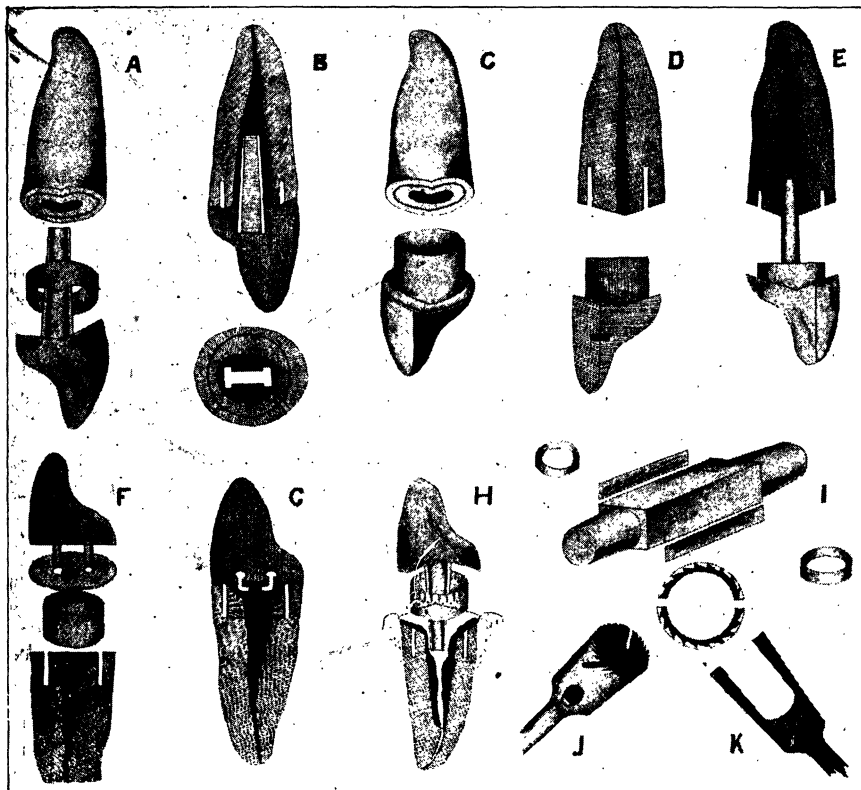
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The Intra-Dental Band System

By Dr. B. J. Cigrand



The above engraving illustrates the several uses of the Intra-Dental Band, as given in a clinic at the Tenth Anniversary celebration of the Odontographic Society of Chicago. Papers on this method were read at the Tri-Union Dental Meeting (Maryland, Washington, D. C., and Virginia) at Baltimore, June 3, 1898. Papers and clinics given at Illinois and Iowa State and Dental Societies.

Figs. A and B—Logan Crown, with Intra-Dental Band.

Figs. C and D—New crown, with band acting as a post.

Fig. E—Richmond crown, with Intra-Dental Band.

Figs. F and G—New porcelain crown, held by Intra-Dental Band.

Fig. H—Badly decayed root, with Intra-Dental Band.

Fig. I—Gauge-mandrel and complementary bands

Figs. J and K—New trephine for preparing and trimming roots.

Figs. I, J and K—Instruments for constructing Intra Dental Band.

(Patent applied for.) System complete, \$5.00.

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We take pleasure in welcoming our old friend, Dr. Bernard J. Cigrand, Batavia, Ill., to a seat on the editorial tripod.

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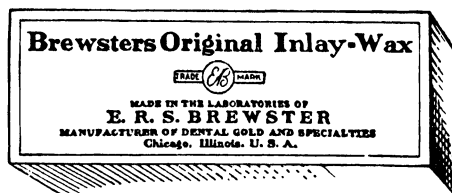
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